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This paper reports a validity study of a sociometric technique described by Barclay. The sample was 103 elementary school children. Sociometric scores were compared against the criterion of adjustment of Referral versus Non-referral to the school counseling service. Data were analyzed by a point biserial r, t tests, and a comparison of percentages of Referred and Non-referred subjects relative to different levels of sociometric status. Each approach to data analysis indicated validity for this sociometric technique. Results were interpreted as supporting the use of Barclay's sociometric technique for the purpose of making assessments of school adjustment in children. (Author/EK)

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ABSTRACT

This paper reports a validity study of a sociometric technique recently described by Barclay. The sample was 103 elementary school children. Sociometric scores were compared against the criterion of adjustment of Referral vs Non-referral to the school counseling service. Data were analyzed by a point biserial r, t tests, and a comparison of percentages of Referred and Non-referred Ss relative to different levels of sociometric status. The r and t testswere statistically significant, and the percentage comparison also indicated validity for this sociometric technique. Results were interpretated as supporting the use of this sociometric technique for the purpose of assessing the school adjustment of children.

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SOCIOMETRIC ASSESSMENT:

A VALIDITY STUDY*

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Various authors have attested to the value of sociometric assessment, including the validity of this approach (Anastasi, 1961; Barclay, 1966b; Bass, 1959; Lindzey and Borgatta, 1954; Remmers, 1963). Barclay (1966b) described a new approach to sociometric assessment, which he claims has several advantages over traditional techniques. This paper reports a validity study of Barclay's technique. Barclay has previously reported on the reliability of this technique (Barclay, 1966b), and on its validity (Barclay, 1966a; Barclay and Barclay, 1965).

PROCEDURE

The sociometric technique used can be described by a direct quote from Barclay (1966b):

> In this particular sociometric device no concern is given to the plotting of mutual choices or the diagramming of choice patterns. The basic intent is to obtain a measure of peer evaluation that is obtained from the entire class.

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Children are asked simply to circle a number corresponding to the names of their friends. There is no restriction on their choices. They may circle as many as they wish. The names of all children and their numbers are placed on the blackboard prior to the distribution of the form. Negative choices are obtained in similar fashion. The criterion of choice is simply their friends, i.e., those they like to work and play with. Once the forms are returned it is a simple matter to tally, by using the numbers, the total choices and rejections obtained. This process yields individual scores which are computed similarly to standard scores, i.e., an arbitrary mean of 50 as the base. Thus an individual with 10 positive choices and 5 negative ones obtains a score of 55, etc. (pp. 1071-1072).

The sample consisted of 103 pupils enrolled in four classes (grades two through five) at the Elementary School of the Hawaii Curriculum Center, an institution engaged in research, development, and demonstration in preschool through high school education. This elementary school has a total enrollment of about 235 pupils in grades one through six. The sample included 50 boys and 53 girls. The four classes involved were used because their teachers had expressed interest in sociometric assessment. There is no reason to believe that these four classes differed in any important way from other classes in the school containing second, third, fourth, and fifth grade pupils. The children in the sample were, almost without exception, from middle class homes.

The sociometric scores of these 103 pupils were compared with the criterion of school adjustment of referral vs non-referral to the school counseling service. The referrals were for academic problems, socio-emotional difficulties, and combinations thereof, but in each case involved an adjustment problem perceived by one or more teachers. Thirty-one children were in the Referred category and seventy-two were in the Non-referred category. The referrals were made during the academic year in which the sociometric scores were obtained, thus, making this essentially a study of concurrent validity.

The data were examined in three ways to investigate the validity of this sociometric technique. One method of data analysis involved obtaining the percentage of pupils referred for the lower twenty-five percent of scores on the sociometric device and comparing these figures with the percentage of pupils referred for the upper seventy-five percent of scores on the sociometric device. (Higher scores on the sociometric technique are in the desirable direction). The directional hypothesis that children referred to the counseling service would obtain lower sociometric scores was tested for statistical significance, using a one-tailed t test. The third method of data analysis was that of computing a point biserial r between the continuous variable of sociometric scores and the dichotomy of referred vs non-referred.

RESULTS

Table 1 presents the means and standard deviations on the sociometric assessment for the total sample, and for the Referred and Non-Referred groups. This table also shows the comparison of the Referred and Non-referred groups as to means and standard deviations. It can be seen that the differences between both means and standard deviations for these groups are statistically significant at the .01 level.

Table 1

Means and Standard Deviations on Sociometric Assessments and Comparison of Referred and Non-referred Groups

	Total Sample	Referred Group	Non-referred Group	Difference Referred vs Non-referred Groups	Critical Ratio
N	103	31	72		
M	53.65	47.65	56.09	8.44	4.40*
SD	9.65	9.74	6.25	3.49	2.60*

*Significant at .01 level.

Table 2 presents the point biserial r between the sociometric scores and the referred vs non-referred dichotomy. The observed correlation of .40 was significantly greater than zero at the .01 level.

Table 2

Point Biserial r Between the Sociometric Scores and the Referred vs Non-referred Dichotomy

N	Point Biserial r
103	.40*

*Significant at .01 level.

Table 3 presents the percentages of pupils referred relative to different levels of sociometric status. Seventy-seven per cent of the lower 25 per cent of students in terms of sociometric status had been referred to the counseling service, while the comparable figure for the upper 75 per cent was only 14 per cent referred.

Table 3

Percentages of Pupils Referred

Relative to Sociometric Scores

	Lower 25% (N=26) Sociometric Scores	Upper 75% (N=77) Sociometric Scores
Number Referred	20	11
Percent Referred	77%	14%

DISCUSSION

Each approach to data analysis clearly indicates validity for this sociometric technique. Since the sociometric assessments and the referrals to the school counseling service occurred close in time, this was basically a study of concurrent validity. However, in view of the lack of any generally accepted, or absolute, criteria of adjustment, this could also be regarded as a study of construct validity. That is, the finding of a positive relationship between sociometric status and teacher referrals would tend to strengthen the validity of both types

of assessment of adjustment. It should be stressed, though, that for purposes of this study teacher referral was accepted as the criterion against which the sociometric technique would be compared. Teacher judgment, after being suspect for some years, has more recently come to be an accepted indication of adjustment problems in children (Beilin, 1959; Bower, 1958).

The referral of about one-third (31 out of 103) of the sample to the counseling service would probably be regarded as a rather high ratio, and an explanation of this is in order. The relatively small counselor-pupil ratio (1-235) in this school is one of the reasons for the high referral rate. Teachers have greater expectation of help from the counselor in the case of a low counselor-pupil ratio, as compared with a high ratio. Another major reason for the relatively high referral rate is that a philosophy of early identification of adjustment problems prevails in this school.

A question might be raised as to why the data were examined in three different ways. The original intention had been to use a correlational analysis and a comparison of the precentages of pupils referred relative to different levels of sociometric status. Correlation would give an indication of degree of relationship, and the percentage type comparison would seem to have meaning especially for people working in practical situations. When the raw data were examined by sight it appeared obvious that pupils in the Referred category were more variable in sociometric scores than were pupils in the Non-referred category. Therefore, the decision was made to test the difference in standard deviations between these groups for statistical significance. After

the standard deviations for the two groups were obtained, it was a simple matter to test the significance of the difference between means. Therefore, the latter statistic was computed, even though this would be a more appropriate procedure for an experimental study.

The variability of the Referred and Non-referred groups on the sociometric device differed significantly. Pupils in the Referred category tended to receive high and low sociometric scores, although the mean score for this group was of course relatively low, while pupils in the Non-referred category received very few low sociometric scores. For example, 7 pupils in the Referred group received scores above 55, while only 2 pupils in the Non-referred group received scores below 45. The reason for this is not clear, but one inference that can be made is that children not judged as maladjusted by their teachers are very likely to be well accepted by their peers, while children judged by their teachers as maladjusted may or may not receive peer acceptance.

The sociometric technique described by Barclay and used in the present study has certain marked advantages over traditional approaches to sociometry. This technique is simple and time saving as compared with techniques which entail working with first and second preferences of children and the construction of sociograms. On the other hand, Barclay's technique does not yield a picture of mutual choices, cluster patterns of children and the like, which teachers sometimes want for purposes of organizing classroom groups and making seating arrangements. Thus, whether this technique or the more traditional approaches are preferable will depend of the purpose for which sociometric assessments are being made. The present study supports the use of Barclay's technique for the purpose of making assessments of school adjustment.

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